Geometry honors problem sets

Coordinate geometry 1

1. Show that the triangle with vertices A(-3,4), M(3,1), and Y (0,-2) is isosceles.

2. Quadrilateral TAUL has vertices T(4,6), A(6,-4), U(-4,-2), and L(-2,4). Show that the diagonals

are congruent.

3. Triangles JAN and RFK have vertices J(-2,-2), A(4,-2), N(2,2), R(8,1), F(8,4), and K(6,3). Show

that trangles JAN and RFK are similar.

4. There are 12 points, each with integer coordinates, that are 10 units from the origin. List the points.

*In 5-7, decide what type of quadrilateral HIJK is. Then prove that your answer is correct.*

5. H(1,2) I(2,-3) J(-2,-1) K(-4,3)

6. H(7,5) I(8,3) J(0,-1) K(-1,1)

7. H(-3,-3) I(-5,-6) J(4,-5) K(6,-2)

8. Use the coordinates from the appropriate problem above to show the diagonals of a rectangle are

congruent.

9. Use the coordinates from the appropriate problem above to show the diagonals of a rhombus are

perpendicular.